WHAT IS CLAIMED IS

1.   A method for displaying results data in a distributed computing environment, comprising:

establishing a first messaging channel between a client and a first service in the distributed computing environment;

the client sending a first message to the first service on the first messaging channel, wherein the first message specifies a display service advertisement for enabling access to a display service associated with the client;

the first service accessing the display service advertisement as specified in the first message; and

the first service establishing a second messaging channel between the first service and the display service in accordance with the display service advertisement.

2.   The method as recited in claim 1, wherein the first messaging channel is configured to pass messages in a data representation language between the client and the first service, and wherein the second messaging channel is configured to pass messages in the data representation language between the first service and the display service.
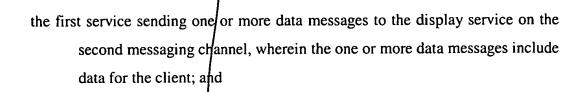
3.   The method as recited in claim 2, wherein the data representation language is eXtensible Markup Language (XML).

4.   The method as recited in claim 1, further comprising:

the first service sending one or more data messages to the display service on the second messaging channel, wherein the one or more data messages include data for the client; and

5   the display service displaying the data from the one or more data messages on a display of the client.

5.   The method as recited in claim 1, wherein the first service establishing a second messaging channel comprises the first service generating a first service message endpoint, 10 wherein the first service message endpoint is configured to send messages to and receive messages from a display service message endpoint of the display service.

6.   The method as recited in claim 1, wherein the display service advertisement comprises:

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a message schema comprising descriptions of data messages for sending data to the display service; and

wherein the method further comprises the first service generating one or more 20   data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client.

7.   The method as recited in claim 6, further comprising:

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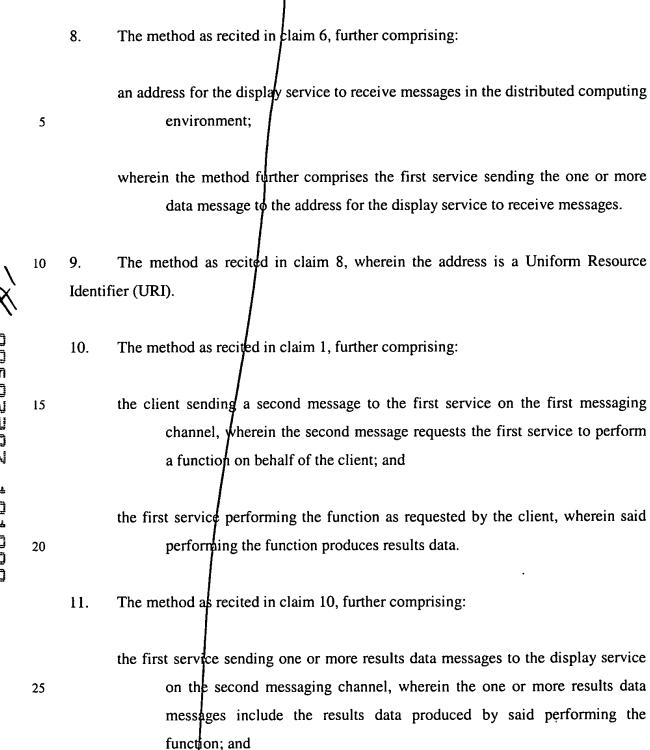the display service receiving the one or more data messages from the first service; and

the display service displaying the data included in the one or more data messages 30   on a display of the client.

8.   The method as recited in claim 6, further comprising:

an address for the display service to receive messages in the distributed computing

5   environment;

wherein the method further comprises the first service sending the one or more

data message to the address for the display service to receive messages.

10   9.   The method as recited in claim 8, wherein the address is a Uniform Resource

Identifier (URI).

10.   The method as recited in claim 1, further comprising:

15   the client sending a second message to the first service on the first messaging

channel, wherein the second message requests the first service to perform

a function on behalf of the client; and

the first service performing the function as requested by the client, wherein said

20   performing the function produces results data.

11.   The method as recited in claim 10, further comprising:

the first service sending one or more results data messages to the display service

25   on the second messaging channel, wherein the one or more results data

messages include the results data produced by said performing the

function; and

the display service displaying the results data from the one or more results data

30   messages on a display of the client.

12.   The method as recited in claim 10, further comprising the first service storing the results data on a results space in the distributed computing environment.

5   13.   The method as recited in claim 12, further comprising:

the first service sending a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the results space;
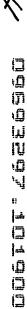
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the display service accessing the results data from the results space in accordance with the results advertisement; and

the display service displaying the results data on a display of the client.

15   14.   The method as recited in claim 1, wherein the display service advertisement is on a storage device in the distributed computing environment, wherein the first message includes information for accessing the display service advertisement on the storage device through a space service.

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15.   The method as recited in claim 14, wherein the first service accessing the display service advertisement comprises accessing the display service advertisement from the storage device through the space service.

25   16.   The method as recited in claim 1, wherein the display service advertisement is an eXtensible Markup Language (XML) document.

17.   The method as recited in claim 1, wherein the client is executing within a first device in the distributed computing environment, and wherein the display service is 30   executing within a second device in the distributed computing environment.

18.   A distributed computing system, comprising:

5   a first device configured to provide a first service accessible within the distributed computing system; and

        a second device configured to:

10   provide a display service accessible within the distributed computing system; and

        provide a client process accessible within the distributed computing system;

15   wherein the client process is configured to:

        establish a first messaging channel between the client process and the first service in the distributed computing environment; and

20   send a first message to the first service on the first messaging channel, wherein the first message specifies a display service advertisement for enabling access to the display service;

        wherein the first service is configured to:

25   access the display service advertisement as specified in the first message; and

establish a second messaging channel between the first service and the display service in accordance with the display service advertisement.

5   19.   The system as recited in claim 18, wherein the first messaging channel is configured to pass messages in a data representation language between the client process and the first service, and wherein the second messaging channel is configured to pass messages in the data representation language between the first service and the display service.

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20.   The system as recited in claim 19, wherein the data representation language is eXtensible Markup Language (XML).

21.   The system as recited in claim 18,

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wherein the second device comprises a display;

wherein the first service is further configured to send one or more data messages to the display service on the second messaging channel, wherein the one or 20   more data messages include data for the client process; and

wherein the display service is further configured to display the data for the client process from the one or more data messages on the display of the second device.

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22.   The system as recited in claim 18, wherein, in said establishing a second messaging channel, the first service is further configured to generate a first service message endpoint, wherein the first service message endpoint is configured to send messages to and receive messages from the display service.

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23. The system as recited in claim 18, wherein the display service advertisement comprises:

a message schema comprising descriptions of data messages for sending data to the display service;

wherein the first service is further configured to generate one or more data messages in accordance with descriptions of the one or more data messages comprised in the descriptions of data messages, wherein the one or more data messages include data for the client process.

24. The system as recited in claim 23,

wherein the second device comprises a display;

wherein the display service is further configured to:

receive the one or more data messages; and

display the data included in the one or more data messages on the display of the second device.

25. The system as recited in claim 23, wherein the display service advertisement further comprises:

an address for the display service to receive messages in the distributed computing environment;

wherein the first service is further configured to send the one or more data message to the address for the display service to receive messages.

26. The system as recited in claim 23, wherein the address is a Uniform Resource Identifier (URI).

5   27. The system as recited in claim 18,

wherein the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client
10   process; and

wherein the first service is further configured to perform the function as requested by the client process, wherein said performing the function produces results data.

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28. The system as recited in claim 27,

wherein the second device comprises a display;

20 wherein the first service is further configured to send one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function; and

25 wherein the display service is further configured to display the results data from the one or more results data messages on the display of the second device.

29. The system as recited in claim 27, further comprising:

a third device configured to provide a results space service accessible within the distributed computing system;

wherein the second device comprises a display;

wherein the first service is further configured to:

store the results data on the third device through the results space service;

send a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the third device;

wherein the display service is further configured to:

access the results data from the third device through the results space service in accordance with the results advertisement; and

display the results data on the display of the second device.

30. The system as recited in claim 18, further comprising:

a fourth device configured to provide a space service accessible within the distributed computing system, wherein the display service advertisement is stored on the fourth device;

wherein the first message includes information for accessing the display service advertisement on the fourth device through the space service; and

wherein, in accessing the display service advertisement, the first service is further

configured to access the display service advertisement from the fourth

device through the space service.

31. A distributed computing system, comprising:

a first device configured to provide a first service accessible within the distributed

computing system;

a second device configured to provide a display service accessible within the

distributed computing system; and

a client device, configured to:

establish a first messaging channel between the client device and the first

service in the distributed computing environment; and

send a first message to the first service on the first messaging channel,

wherein the first message specifies a display service advertisement
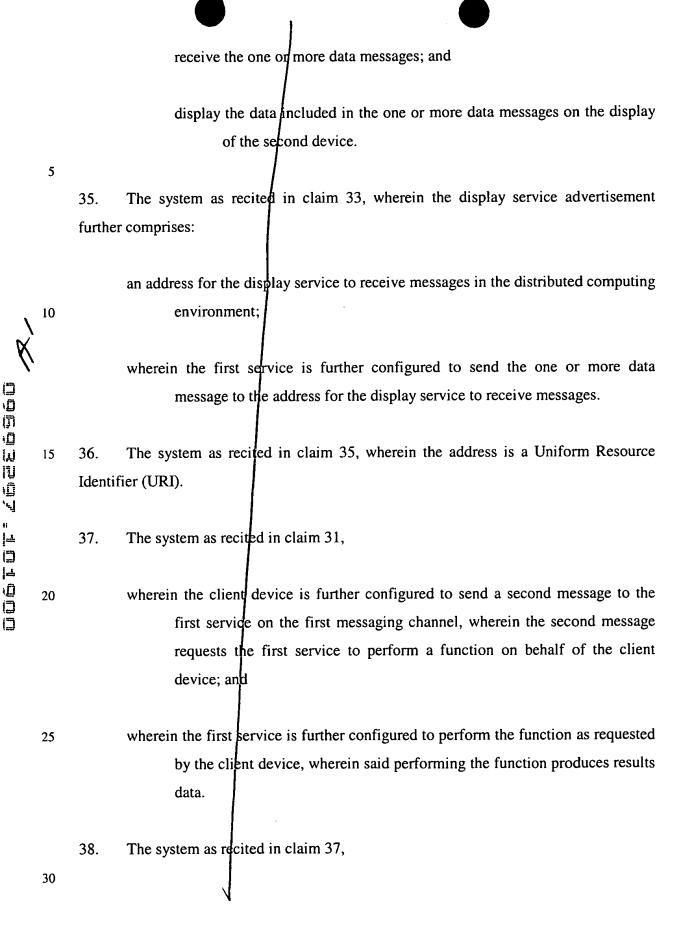
for enabling access to the display service;

wherein the first service is configured to:

access the display service advertisement as specified in the first message;

and

establish a second messaging channel between the first service and the

display service in accordance with the display service

advertisement.

32.   The system as recited in claim 31,

        wherein the second device comprises a display;

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        wherein the first service is further configured to send one or more data messages
             to the display service on the second messaging channel, wherein the one or
             more data messages include data for the client device; and

10   wherein the display service is further configured to display the data for the client
             device from the one or more data messages on the display of the second
             device.

33.   The system as recited in claim 31, wherein the display service advertisement
15   comprises:

        a message schema comprising descriptions of data messages for sending data to
             the display service;

20   wherein the first service is further configured to generate one or more data
             messages in accordance with descriptions of the one or more data
             messages comprised in the descriptions of data messages, wherein the one
             or more data messages include data for the client device.

25   34.   The system as recited in claim 33,

        wherein the second device comprises a display;

        wherein the display service is further configured to:

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receive the one or more data messages; and

display the data included in the one or more data messages on the display of the second device.

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35. The system as recited in claim 33, wherein the display service advertisement further comprises:

an address for the display service to receive messages in the distributed computing environment;

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wherein the first service is further configured to send the one or more data message to the address for the display service to receive messages.

15 36. The system as recited in claim 35, wherein the address is a Uniform Resource Identifier (URI).

37. The system as recited in claim 31,

20 wherein the client device is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client device; and

25 wherein the first service is further configured to perform the function as requested by the client device, wherein said performing the function produces results data.
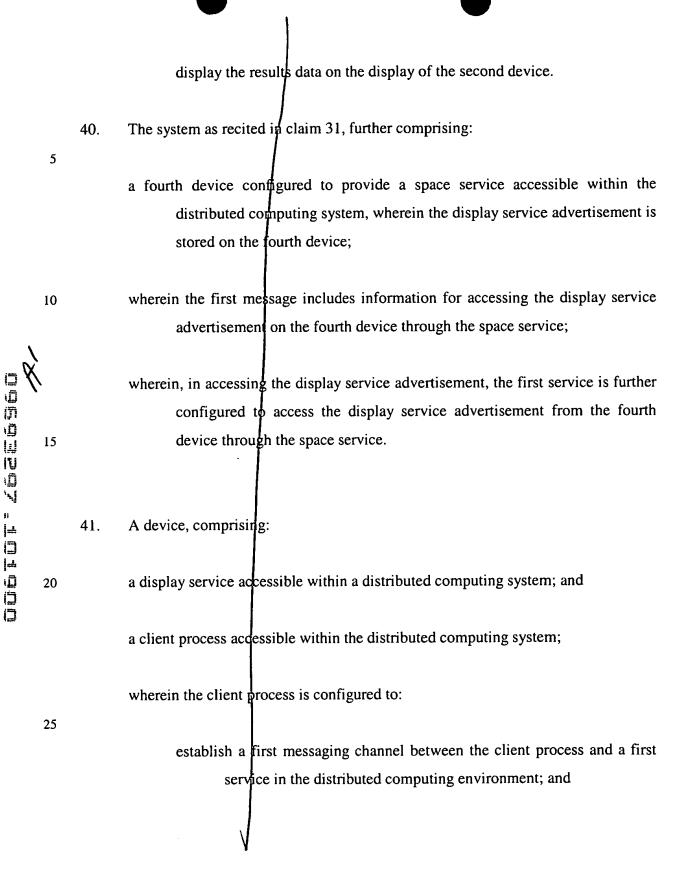
38. The system as recited in claim 37,

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wherein the second device comprises a display;

wherein the first service is further configured to send one or more results data
messages to the display service on the second messaging channel, wherein
the one or more results data messages include the results data produced by
said performing the function; and

wherein the display service is further configured to display the results data from
the one or more results data messages on the display of the second device.

39.   The system as recited in claim 37, further comprising:

a third device configured to provide a results space service accessible within the
distributed computing system;

wherein the second device comprises a display;

wherein the first service is further configured to:

store the results data on the third device through the results space service;

send a results message to the display service on the second messaging
channel, wherein the results message specifies a results
advertisement for accessing the results data stored on the third
device;

wherein the display service is further configured to:

access the results data from the third device through the results space
service in accordance with the results advertisement; and

display the results data on the display of the second device.

40.   The system as recited in claim 31, further comprising:

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a fourth device configured to provide a space service accessible within the distributed computing system, wherein the display service advertisement is stored on the fourth device;

10   wherein the first message includes information for accessing the display service advertisement on the fourth device through the space service;

wherein, in accessing the display service advertisement, the first service is further configured to access the display service advertisement from the fourth device through the space service.

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41.   A device, comprising:

a display service accessible within a distributed computing system; and

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a client process accessible within the distributed computing system;

wherein the client process is configured to:

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establish a first messaging channel between the client process and a first service in the distributed computing environment; and

send a first message to the first service on the first messaging channel, wherein the first message specifies a display service advertisement for enabling access to the display service;

5   wherein the first service is operable to establish a second messaging channel between the first service and the display service in accordance with the display service advertisement.

42.   The device as recited in claim 41,

10   wherein the device further comprises a display;

wherein the display service is configured to:

15   receive one or more data messages on the second messaging channel, wherein the one or more data messages include data generated by the first service for the client process; and

display the data received in the one or more data messages on the display of the device.

43.   The device as recited in claim 41,

wherein the device further comprises a display;

25   wherein the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client process; and

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wherein the display service is further configured to display results data on the display of the second device, wherein the first service performing the function generates the results data, and wherein the results data are received in one or more results data messages sent to the display service by the first service on the second messaging channel.

44. The device as recited in claim 41, further comprising:

wherein the device further comprises a display;

wherein the client process is further configured to send a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client process; and

wherein the first service performing the function for the client generates results data, wherein the first service stores the results data to a results space, and wherein the display service is further configured to:
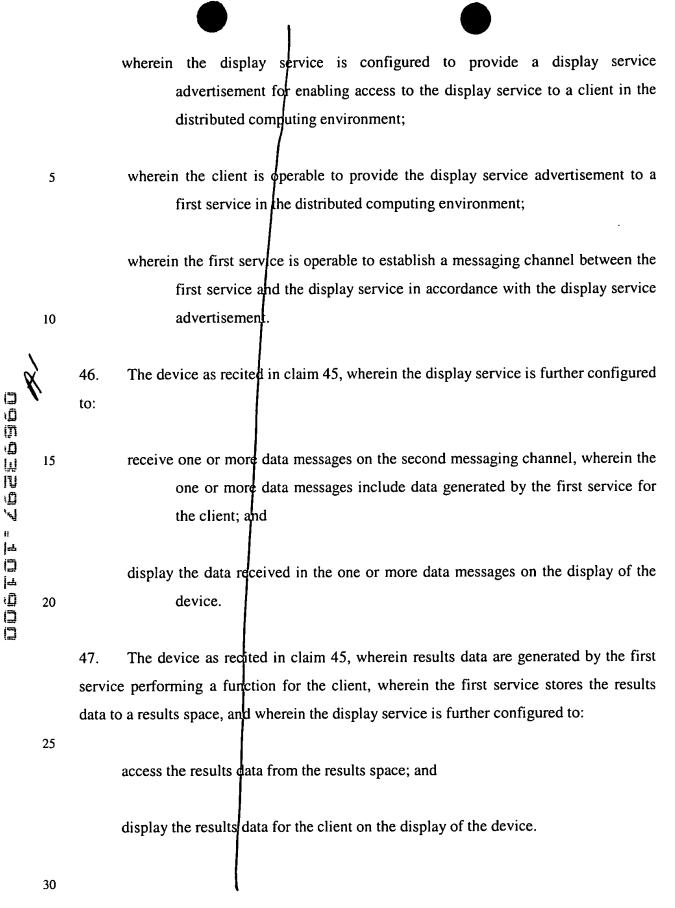
access the results data from the results space; and

display the results data for the client on the display of the device.

45. A device, comprising:

a display; and

a display service accessible within a distributed computing system;

wherein the display service is configured to provide a display service advertisement for enabling access to the display service to a client in the distributed computing environment;

5   wherein the client is operable to provide the display service advertisement to a first service in the distributed computing environment;

wherein the first service is operable to establish a messaging channel between the first service and the display service in accordance with the display service advertisement.

10   advertisement.

46.   The device as recited in claim 45, wherein the display service is further configured to:

15   receive one or more data messages on the second messaging channel, wherein the one or more data messages include data generated by the first service for the client; and

display the data received in the one or more data messages on the display of the device.

20   device.

47.   The device as recited in claim 45, wherein results data are generated by the first service performing a function for the client, wherein the first service stores the results data to a results space, and wherein the display service is further configured to:

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access the results data from the results space; and

display the results data for the client on the display of the device.

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48.   A carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

      establishing a first messaging channel between a client and a first service in a

5   distributed computing environment, wherein the first messaging channel is

           configured to pass messages in a data representation language between the

           client and the first service;

      the client sending a first message to the first service on the first messaging

10   channel, wherein the first message specifies a display service

           advertisement for enabling access to a display service associated with the

           client;

      the first service accessing the display service advertisement as specified in the first

15   message; and

      the first service establishing a second messaging channel between the first service

           and the display service in accordance with the display service

           advertisement wherein the second messaging channel is configured to pass

20   messages in the data representation language between the first service and

           the display service.

49.   The carrier medium as recited in claim 48, wherein the data representation language is eXtensible Markup Language (XML).

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50.   The carrier medium as recited in claim 48, wherein the program instructions are further computer-executable to implement:

the first service sending one or more data messages to the display service on the second messaging channel, wherein the one or more data messages include data for the client; and

5   the display service displaying the data from the one or more data messages on a display of the client.

51.   The carrier medium as recited in claim 48, wherein the display service advertisement comprises:

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a message schema comprising descriptions of data messages for sending data to the display service; and

an address for the display service receiving the data messages.

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wherein the program instructions are further computer-executable to implement:

the first service generating one or more data messages in accordance with descriptions of the one or more data messages comprised in the
20   descriptions of data messages, wherein the one or more data messages include data for the client;

the first service sending the one or more data message to the address for the display service receiving the data messages;

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the display service receiving the one or more data messages; and

the display service displaying the data included in the one or more data messages on a display of the client.
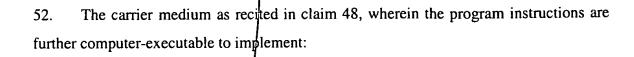
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52.   The carrier medium as recited in claim 48, wherein the program instructions are further computer-executable to implement:

the client sending a second message to the first service on the first messaging channel, wherein the second message requests the first service to perform a function on behalf of the client;

the first service performing the function as requested by the client, wherein said performing the function produces results data;

the first service sending one or more results data messages to the display service on the second messaging channel, wherein the one or more results data messages include the results data produced by said performing the function; and

the display service displaying the results data from the one or more results data messages on a display of the client.
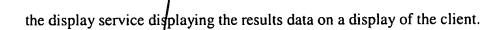
53.   The carrier medium as recited in claim 52, wherein the program instructions are further computer-executable to implement:

the first service storing the results data on a results space in the distributed computing environment;

the first service sending a results message to the display service on the second messaging channel, wherein the results message specifies a results advertisement for accessing the results data stored on the results space;

the display service accessing the results data from the results space in accordance with the results advertisement; and

the display service displaying the results data on a display of the client.

54.   The carrier medium as recited in claim 48, wherein the display service
5   advertisement is on a storage device in the distributed computing environment, wherein
the first message includes information for accessing the display service advertisement on
the storage device through a space service, wherein, in the first service accessing the
display service advertisement, the program instructions are further computer-executable
to implement accessing the display service advertisement from the storage device through
10   the space service.

55.   The carrier medium as recited in claim 48, wherein the display service
advertisement is an eXtensible Markup Language (XML) document.

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